Republic of the Union of Myanmar

University of Dental Medicine, Yangon

Report on
The Project for the Promotion of Dental Technology / Dental Care Service in Myanmar

September 2015

Japan International Cooperation Agency

(JICA)

Dental Support Co., Ltd.

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Map of Myanmar

Section 1 Project Background and Summary

1-1 Background

Currently, two dental universities are in the Republic of the Union of Myanmar (hereinafter referred to as "Myanmar") and produce 150 graduates every year as dentists. About 3,000 dentists are now in Myanmar. Dental services available for people in Myanmar are limited (predominantly for tooth extraction), and the dental medicine/dental technology is at a relatively low level. Training opportunities are also so limited for dental university graduates in Myanmar that advanced skills and technologies are learned overseas only by a few dentists. In addition, medical equipment and devices are definitely insufficient.

Under such circumstances, Myanmar has identified healthcare as a national priority issue. In 1993, the National Health Policy placing the "Health For All" goal was developed as a national social objective to improve nationwide health conditions. Myanmar Health Vision 2030, a long-term 30-year health development plan, was formulated in 2001. The improvement of oral health is designated in these policies.

This project aims to improve the quality of dental treatment in Myanmar by continuously dispatching dental technicians to the Dental Technological School of the University of Dental Medicine, Yangon, to assist in the establishment of a domestic training system for dental technicians through the creation of educational programs and textbooks for dental technicians, lectures on Japanese high-quality dental technologies and techniques and training, and through the transfer of the technology and knowledge of advanced dental treatments to dental professionals at the university who are top referral dentists in Myanmar.

1-2 Project Summary

The summary of this project is shown below:

I. Company outline	
1. Company name	Dental Support Co., Ltd.
2. Business Fields	Service business
3. Address	D Building, Makuhari Techno Garden, 1-3 Nakase, Mihama-ku, Chiba-shi, Chiba 261-8501 Japan
II. Technology to be disseminated: Japanese dental medicine and dental technology	
1. Target Country / Regions	Republic of the Union of Myanmar (hereinafter referred to as "Myanmar"), Yangon area
2. Technology to be disseminated	Japanese dental medicine and dental technology
3. Expected development effects and areas to be developed	Areas to be developed: Healthcare Improvement and establishment of skills of dentists/dental technicians in parallel with the distribution of high-quality dental laboratory work, development and production of human resources, and the improvement of dental medicine in Myanmar.
4. Business outline	- Based on the development principles described above, we develop and operate the business. (i) A company (a laboratory center) that supplies dental laboratory services is founded in the University of Dental Medicine, Yangon, to provide training in dental technologies and laboratory techniques to the people in Myanmar and perform some fabrication processes for dental laboratory work outsourced from Japan. (ii) Special educational programs are provided for dental technician students of the University of Dental Medicine, Yangon. (iii) The laboratory center to be set up in the University of Dental Medicine, Yangon, will be expanded in the future to be a dental technology institute with the dental laboratory. In parallel, activities to raise awareness for the national qualification for dental technicians in Myanmar will be conducted. - These above will create the system to improve and establish the skills of dentists/dental technicians, provide high-quality dental laboratory products, and develop and produce human resources in Myanmar.
III. Program of this project (a private technology promotion project)	
1. Contents of the project	(i) Investigation of the state of issues faced by the relevant region/fields (ii) Activities of acceptance in Japan a. Observation of processes for dental laboratory work in a Japanese dental laboratory and their applications b. Observation of current dental treatments in the dental practice of the proposing corporate, Dental Support. (iii) Activities in Myanmar a. Guidance for dental laboratory techniques and simulated fabrication of dental laboratory work for the dental laboratory in the University of Dental Medicine, Yangon

	b. Creation of educational curricula and textbooks for dental technicians c. Diffusion of the latest knowledge related to dental treatments and technologies by giving seminars primarily targeted for Myanmar government officials d. Consultation with the Myanmar Ministry of Health for the approval of the educational curricula and textbooks above mentioned in b and the construction of the national qualification system for dental technicians (iv) Exploration of the direction of project (business) expansion after the completion of this project (v) Clarification of the development effects expected by the project (business) after the completion of this project (vi) Exploration of the possible collaboration with ODA projects in Myanmar
2. Duration of the project	July 28, 2014 to September 30, 2015
3. Counterpart organization	The Myanmar Ministry of Health and University of Dental Medicine, Yangon.

1-3

The activity schedules of the acceptance in Japan and four sessions of on-site activities, as well as the members of the investigation team are listed below.

1-3-1 On-site activities

Participated members of the investigation team

Name	Operations in charge	Affiliation	Participation
Akihiro Hayakawa	Chief of Project	Dental Support Co., Ltd.	
Kensuke Shuto	Person in charge of development issues/ Manager of On-site education/training	On-site education/ Training advisor	First, second and fourth sessions
Kazuyoshi Suzuki	Provider of on-site education/training	Director of Japan-Cambodia Interactive Association Director of medical cooperation Shohaku-kai Dentist, Dental Clinical Instructor	
Satoshi Abe	Provider of on-site education/training	A member of Chiba City assembly Ministry of Health, Labour and Welfare, scientific research squad KAKENHI (Grant-in-Aid for Scientific Research) principal investigator Visiting lecture of Faculty of medical technology, Teikyo University Visiting lecture of Shonan College of Dental Hygiene Dentist, Doctor in Dental Medicine	Fourth session
Nana Mihara	Provider of on-site education/training	Director of Yasashii Dental	Second session
Hiroo Machida	Preparer of educational curriculum	None	First, second, third and fourth sessions
Naoto Saito	Provider of on-site education/training	Dental Support Co., Ltd.	Third session
Hayato Nakagawa	Manager of on-site operations	Dental Support Co., Ltd.	Second session
Yuzuru Mitsuhashi	Provider of on-site education/training	Dental Support Co., Ltd.	Fourth session
Masato Ogawa	Provider of on-site education/training	Dental Support Co., Ltd.	Fourth session
Takeshi Uchida	Provider of on-site education/training	Dental Support Co., Ltd.	Fourth session

First Session Activity Schedule
[Activity duration] August 25, 2014 to August 29, 2014
[Dispatch]: Total of two members <Proposing corporate>: Kensuke Shuto, <External personnel> Hiroo Machida (a former lecture of School of Dental Technology, Kanagawa Dental College)
[Place]: University of Dental Medicine, Yangon
[Intended trainees]: Total of 24 including students and teachers from Dental Technological School.
[Objective] The on-site investigation for the smooth implementation of on-site activities

The second session Activity Schedule
[Activity duration] Sunday, November 30, 2014 to Saturday, December 28, 2014
[Dispatch]: Total of 4 members <Proposing corporate>: Kensuke Shuto, Hayato, Nakagawa <External personnel > Nana Mihara, Hiroo Machida (a former lecture of School of Dental Technology, Kanagawa Dental College)
[Place]: University of Dental Medicine, Yangon
[Intended trainees]: Total of 24 including students and teachers from Dental Technological School.
[Course hours]: 18 days, 9:00–15:00 (16 days), and 9:00–12:00 (2 days) ／52 classes (104 hours)

Third Session Activity Schedule:
[Activity duration] February 1, 2015 to February 28, 2015
[Dispatch]: Total of two members <Proposing corporate>: Naoto Saito, <External personnel > Hiroo Machida (a former lecture of School of Dental Technology, Kanagawa Dental College)
[Place]: University of Dental Medicine, Yangon
[Intended trainees]: Total of 24 including students and teachers from Dental Technological School.
[Objectives]: Initiation of the dental technology education curriculum (Denture)
[Course hours]: 19 days, 9:00–14:30 (15 days)
9:00–11:00/13:00–13:00 (4 days) / 53 classes (106 hours)

Fourth Session Activity Schedule:
[Activity duration] April 26, 2015 to July 12, 2015
[Dispatch]: Total of six members <Proposing corporate>: Takeshi Uchida, Kensuke Shuto, Yuzuru Mitsuhashi, Masato Ogawa <External personnel> Satoshi Abe (a

member of Chiba City Assembly), Hiroo Machida (a former lecture of School of Dental Technology, Kanagawa Dental College)
[Place]: University of Dental Medicine, Yangon / School of Dental
[Intended trainees]: Total of 24 including students and teachers from Dental Technological School.
[Objectives]: Starting the dental technology education curriculum (Denture)
Holding of a dental seminar (the final activity scheduled)
[Course hours]: 42 days

10:00–11:00, 13:00–14:30 (7 days)
10:00–11:30, 13:00–14:30 (28 days)
10:00–11:30, 14:00–14:30 (6 days)
10:00–11:30, 14:00–14:30 (1 day) / 77 classes (154 hours)

[Seminar]: Tuesday, July 7, 2015 13:00–15:00
Lecturers: Satoshi Abe, Takeshi Uchida, Kensuke Shuto
Contents: Report of on-site activities, dental care in Japan and Myanmar

1-3-2 Activity Schedule of Acceptance in Japan

[Duration of the Activity] April 14, 2015 to April 17, 2015

Date	Time	Activities	Activities of acceptance in detail	Lecturers and/or person in charge at the accepting sites etc.		Place
				Name	Affiliation	
April 14	15:00–16:00	Visit	- Courtesy call on the mayor of Chiba Meeting with the mayor of Chiba after the discussion about medical services in Myanmar with the International Exchange Department, Chiba city.	Toshihito Kumagai	The mayor of Chiba	Chiba City Hall
	16:30–18:00	Observational tour	- Laboratory tour Visited the denture division Denture cases etc.	Kensuke Shuto	Dental Support	Dental Studio
April 15	11:00–12:30	Discussion	- Discussion about medical care in Japan and Myanmar Discussed about the difference in medical-related systems as well as the field report	Kensuke Shuto	Dental Support	Dental Studio
	15:00–18:00	Observational tour	- Tour of a dental laboratory and a dental clinic Visited the bridge division of the laboratory and the partner dental clinic	Kensuke Shuto	Dental Support	Dental Studio - Kantake Dental Clinic
April 16	11:00–12:00	Observational tour	- Observation of the implant surgery to place six implants Observed GBR (guided bone regeneration) Visited a dental clinic having its own dental laboratory After the surgery, observed the clinical practice at the dental clinic	Satoru Shinbo	Apl' Dental Clinic	Luz Omori Apl' Dental Clinic
	15:00–18:00	Practice	- CAD/CAM practices Observed the workflow from design to fabrication and practiced	Kensuke Shuto	Dental Support	Dental Studio

Section 2 Myanmar - Country Profile

2-1 Overview of the politics and economy in Myanmar

Population: 5,142 million Area: 678,330 km^2 (1.8 times larger than that of Japan)
Capital: Naypyidaw Official language: Burmese

Myanmar is a republican country located in western Indochina in the southeastern Asia. Myanmar, being ethnically diverse, has as many as 135 ethnic groups. The Bamar form about 70% of the population, followed by the Shan, Kavin, and Rakhine people. The Myanmar economy continues to grow rapidly with the higher economic growth rate of 8.5% than that of China, which is almost the best in Asia. Its GDP per capita is 1,270 US dollars, while the percentage increase in CPI is 6.6% (IMF estimates in 2014).

Although the infrastructure has been progressively developed by the support and expansion of foreign companies, medical-related facilities and professional human resources are still insufficient.

Limited dental care mostly for tooth extractions available for the Myanmar people (patients) and few post-graduation training courses, which reduce learning opportunities in the latest treatments for postgraduates, have been issues.

No available health insurance programs make it difficult for many people to visit the hospital and permit only the wealthy to receive advanced medical care.

The current Thein Sein administration of the Myanmar government was inaugurated in March, 2011 and is in its fifth year in 2015. As the general election will be held at the end of 2015, attention is now focused on whether the current ruling party, the Union Solidarity and Development Party (USDP) will win another term in power or National League for Democracy (NLD), led by Aung San Suu Kyi, will come to power and she wins the presidency.

In addition, the expected establishment of the ASEAN Economic Community by the end of 2015 may contribute to the expansion of employment and investment by the increased involvement in the supply chains centering on Thailand, which evidently lead to Myanmar's major reform. Myanmar is expected to achieve economic growth as a country with its abundant population and natural resources

Section 3 Contents of the Project activities and their Outcomes

3-1 On-site Activities

The schedules listed in 1-3-1 “On-site Activities” were followed and the members also listed in it participated in five sessions of on-site activities in Myanmar. The outcomes of each investigation and activity are described below.

3-1-1 Activities

1) First Session of the On-site Activity

[Activity duration] Monday, August 25, 2014 to Friday, August 29, 2014

[Dispatch]: Total of two members <Proposing corporate>: Kensuke Shuto, <External personnel> Hiroo Machida

[Place]: University of Dental Medicine, Yangon

[Intended trainees]: Total of 24 including students and teachers from Dental Technological School.

[Objective] The on-site investigation for the smooth implementation of on-site activities

(i) Presentation of the curriculum (draft) to the university president and hearings

The purpose of this session and the prepared curriculum (draft) were presented and explained to the university president, Mr. Ten Kyu. We had several requests from the university, which are reflected in the curriculum.

(ii) Evaluation of the skills of participating dental technician students

We evaluated their current skill levels and held hearings with students in regard to the contents of the textbooks and their requests. As their skill levels seemed to be lower than those of Japanese students, we deemed it necessary to start from the basics.

(iii) Confirmation of equipment at the relevant Dental Technological School

The equipment available (casting machines and drilling instruments) was insufficient and less than expected. Donation of the latest equipment from Japan once considered was given up as we found the provision of maintenance and repair services in the event of a possible trouble difficult. Instead, we decided to donate laboratory instruments (modelling instruments) and articulators (a device that simulates occlusions). We determined that there would be no problem in fabricating minimum laboratory work even though the equipment and instruments were insufficient.

(iv) Inspection of materials locally procured

We contacted the dental material distributor to confirm the prices, amounts, and qualities of materials to be procured locally. Most of the materials to be procured were consumable supplies. Many materials are made in China and India and those made in Japan are fewer. We tested various samples of materials offered to confirm their performance and decided to purchase them locally.

2) The Second Session of the On-site Activity

[Activity duration] Sunday, November 30, 2014 to Saturday, December 28, 2014

[Dispatch]: Total of three members <Proposing corporate>: Kensuke Shuto <External personnel > Nana Mihara, Hiroo Machida (a former lecture of School of Dental Technology,

Kanagawa Dental College)
[Place]: University of Dental Medicine, Yangon
[Intended trainees]: Total of 24 including students and teachers from Dental Technological School.
[Course hours]: 18 days, 9:00–15:00 (16 days), and 9:00–12:00 (2 days) / 52 classes (104 hours)
[Additional details] We visited Mr. Than Zaw Myint, the Director General of the Ministry of Health to present the outline of this program and obtained his agreement on the invitation to Japan scheduled in March 2015. We also discussed the construction of the national qualification system of dental technicians in Myanmar. His opinion was that it is a very good idea, but the fact is that in Myanmar, we only have one dental technological school attached to the University of Dental Medicine, Yangon. Therefore, its construction is difficult unless the number of such schools increases nationwide, which requires time. Thus, we are continuing activities to raise awareness of the Ministry of Health and the university for the construction of a national qualification system for dental technicians.

[Preparation of equipment, instruments, and models]
a. Projector
b. Unity articulator (average value): 12
c. Silicon impression / for the demonstration of the study model: 2
d. Mold of the dental model for practice (silicon)
- Mold of the dental model with a crown die: 6 / 67T-8
- Mold of the dental model of the opposing dentition: 4 / 67T-8
- Mold of the maxillary dental model for the removable partial denture: 5 / 500A
- Mold of the opposing mandibular dental model: 5 / 500A
- Other molds of dentitions for reference: a few
e. Dental models for practice (Models of the work in progress and the finished work): about 10
f. Dental model of full mouth
g. Silicon mold of the dental die
h. Equipment and instruments necessary for the fabrication of crowns, bridges, and dentures
i. Textbooks on dental technology
[Contents of the laboratory work training]
a. Crowns: a full-cast crown
b. Dentures: a single tooth removable partial denture
<December 1>
Addresses by the university president and preparations for practice were done on the first day to start the practical training on the next day.
<December 2 to 5>
Practical training mainly taught by Dr. Mihara. He provided instruction from the dentist's viewpoints and used a projector to introduce the dental health industry in Japan. Furthermore, the lectures were given using videos introducing advanced technologies, including CAD/CAM. During the course, impressions were taken of students to provide experience-oriented clinical practice training.

<December 8 to 26>
The curriculum of the laboratory work started. Students were assigned to one of two groups,

the crown group or the denture group, to start the training. Before students started the laboratory work, Shuto and Machida demonstrated the procedures based on the textbook and then they proceeded to the next procedure after being checked for acceptance. At the end of the course, the crown work was completed, whereas the fabrication of the removable partial denture was still in progress and completed only as far as the completion of the wax denture.

- Issues: the problems in students' skills and materials procured locally resulted in a lower degree of perfection of each process and a delayed work schedule.

- Comments: Students appeared to have strong desires to learn although their basic knowledge, skills and minds were considered still underdeveloped. Our supportive guidance should lead to the improvement of their skills. On the basis of issues found this time, we planned to make further efforts for the next on-site activities in February to provide supportive assistance during technical training and fundamentally raise the level of their knowledge.

3) The Third Session of the On-site Activity

[Activity duration] Sunday, February 1, 2015 to Saturday, February 28, 2015
[Dispatch]: Total of two members <Proposing corporate>: Naoto Saito, <External personnel > Hiroo Machida
[Place]: University of Dental Medicine, Yangon
[Intended trainees]: Total of 24 including students and teachers from Dental Technological School.
[Course hours]: 19 days, 9:00–14:30 (15 days)
9:00–11:00/13:00–13:00 (4 days) / 53 classes (106 hours)
[Preparation of equipment, instruments, and models]
a. Projector
b. Mold of the dental model for practice (silicon)
- Mold of the maxillary dental model for the removable partial denture: 5
- Mold of the opposing mandibular dental model: 5
c. Instruments necessary for the fabrication of the denture
d. Textbooks of dental technology

[Contents of laboratory work training]
In the first session of the on-site activity, the full cast crown and the removable partial denture, which are basics of dental laboratory work, were fabricated. In the second session, the advanced curriculum (the fabrication of the metal-base full denture) was carried out based on the training for the partial denture.

a. The remaining training for the first session activities (finishing of the removable partial denture)
b. Fabrication of the metal-base maxillary denture (RPI retainers etc.)
c. Fabrication of the mandibular denture (lingual bars, wire clasps for multiple teeth etc.)

[Fig. b Metal-base maxillary denture]

[Fig. c Removable partial denture]

<February 2 to 4>

The remaining training for the first session of the on-site activity was completed in three days.

[Finished work A; removable partial denture]

[Finished work B; partial denture]

The basic laboratory skills for the fabrication of the removable partial denture including surveying, designs, and properties of retainers were practiced.

<February 5 to 28>

The advanced denture curriculum started.

Saito and Machida demonstrated the procedures based on the textbook and then students started the training and received permission after each process to proceed to the next one. Similarly in the previous session, some lack of basic knowledge was observed among students, and thus more time was taken to provide lectures than last time to carry out the curriculum. With additional problems of equipment and materials, we could not lead students to the final goal of this session. We planned to prepare the slide presentation for the next curriculum to help completing it.

- Issues: we found many factors hindered the progress of the training, including equipment in the training facility and the precision and reliability of the dental materials locally procured.

- Comments: Based on the previous activity, we provided the training by providing students with knowledge. However, the more difficult the laboratory work, the more sensitive to equipment and materials as well as techniques. We communicated this with the university as a part of the enlightenment activities to promote healthcare technology in Myanmar and to advance dental technology.

5) Fourth Session of the On-site Activity

[First phase]: Sunday, April 26, 2015 to Thursday, April 30, 2015
[Dispatch]: Total of two members <Proposing corporate>: Kensuke Shuto, <External personnel > Hiroo Machida (a former lecture of School of Dental Technology, Kanagawa Dental College)
[Place]: University of Dental Medicine, Yangon / School of Dental Technology
[Intended trainees]: Total of 24 including students and teachers from Dental Technological School.

[Preparation of equipment, instruments, and models]
a. Projector
b. Mold of the dental model for practice (silicon)
- Mold of the maxillary dental model for the maxillary abutment buildup and temporary bridge: 5
- Mold of the maxillary dental model for porcelain fused metal crown of the central incisor and the full cast crown of the first molar: 5
- Mold of the maxillary dental model for porcelain fused metal crown of the first molar: 5
- Mold of the maxillary dental model for porcelain fused metal bridge in the anterior region: 5
- Mold of the opposing mandibular dental model: 5
- Mold of the maxillary dental model with complete dentition
- Mold of the dental model of the maxillary metal-base denture
- Mold of the dental model of the mandibular partial denture
c. Equipment and instruments necessary for the fabrication of crowns, bridges, and porcelain work
d. Models related to the practical training
e. Books including the textbooks of dental technology
2. Contents of the laboratory work training
a. The remaining training for the second session activities (the removable partial denture)
b. Fabrication of the post-core and the anterior temporary bridge

<Outcomes>
Preparations for the advanced training for the bridge starting in May, and lectures with slides and demonstrations were carried out.

a. The remaining training for the second session activity (removable partial denture) was continued. More time than expected was required due to inadequate limited equipment and materials. We needed to continue the training in June.
b. The advanced bridgework training, including fabrication of the post-core and anterior temporary bridge, was carried out.

We took more time to provide lectures and demonstrations during the training for it was an advanced one.


- Issues: As in the previous sessions, we found many factors hindered the progress of the training, including equipment in the training facility and the precision and reliability of the dental materials locally procured.

- Comments: Based on the previous activity, we provided the training by providing the students with knowledge. Students had positive attitudes for the instruction.

[Second Phase] Sunday, May 1, 2015 to Saturday, May 31, 2015
[Dispatch]: Total of two members <Proposing corporate>: Yuzuru Mitsuhashi, <External personnel > Hiroo Machida (a former lecture of School of Dental Technology, Kanagawa Dental College)
[Place]: University of Dental Medicine, Yangon / School of Dental Technology
[Intended trainees]: Total of 24 including students and teachers from the Dental Technological School.
[Course hours]: 20 days 9:00–11:00, 13:00–14:30 (4 days)
10:00–11:30, 13:00–14:30 (16 days) / 40 classes (80 hours)

[Preparation of equipment, instruments, and models]
a. Projector
b. Mold of the dental model for practice (silicon)
- Mold of the maxillary dental model for the maxillary abutment buildup and temporary bridge: 5
- Mold of the maxillary dental model for porcelain fused metal crown of the central incisor and the full cast crown of the first molar: 5
- Mold of the maxillary dental model for porcelain fused metal crown of the first molar: 5
- Mold of the maxillary dental model for porcelain fused metal bridge in the anterior region: 5
- Mold of the opposing mandibular dental model: 5
- Mold of the maxillary dental model with complete dentition
- Mold of the dental model of the maxillary metal-base denture
- Mold of the dental model of the mandibular removable partial denture
c. Equipment and instruments necessary for the fabrication of crowns, bridges, and porcelain works
d. Models related to the practical training
e. Books including the textbooks of dental technology

[Contents of the laboratory work training]
a. The remaining training for the second session activities (the removable partial denture)
b. Fabrication of the post-core and the anterior temporary bridge

c. Fabrication of the porcelain fused to a metal crown (the central incisor)

<Outcomes>

a. Some of the remaining training for the second session activity (removable partial dentures) were not completed and carried over to the next month.
b. The fabrication of the post-core and the anterior temporary bridge was completed as scheduled. Students understood the significance and effectiveness of provisional restorations through this training with lectures in cores and temporary bridges.
c. The fabrication of the porcelain fused to a metal crown was completed as scheduled. Students understood properties of porcelains and the fabrication procedures for the porcelain fused to a metal crown through this training with lectures.

[Finished work A; Temporary bridge]

[Finished work B; Porcelain fused to a metal crown]

[Lecture of instructions]

Issues: We planned to use spare time (waiting time between procedures) during this training to carry out the remaining training for the second session activity, which resulted in slow progress. Instead of precision silicon impression material usually used, gelatin was used due to the trouble with materials. Therefore, the locations of reliefs and outlines became inaccurate, which led to the compromised contour and precision of the metal base compared with those of the usual materials. The lack of sandblast equipment also caused delays in the progress of the training.

[Third Phase]: Monday, June 1, 2015 to Tuesday, June 30, 2015
[Dispatch]: Total of three members <Proposing corporate>: Kensuke Shuto, Masato Ogawa, <External personnel > Hiroo Machida (former lecturer of the School of Dental Technology, Kanagawa Dental College)
[Place]: University of Dental Medicine, Yangon / School of Dental Technology
[Intended trainees]: Total of 24 including students and teachers from the Dental Technological School.
[Course hours]: 22 days 10:00–11:00, 13:00–14:30 (3 days)
10:00–11:30, 14:00–14:30 (6 days)
10:00 – 11:30, 13:00 – 14:30 (12 days)
10:00 – 11:00, 14:00 – 14:30 (1 day) / 37 classes (74 hours)

[Preparation of equipment, instruments, and models]
a. Projector
b. Mold of the dental model for practice (silicon)
- Mold of the maxillary dental model for the maxillary abutment buildup and temporary bridge: 5
- Mold of the maxillary dental model for porcelain fused metal crown of the central incisor and the full cast crown of the first molar: 5

- Mold of the maxillary dental model for porcelain fused metal crown of the first molar: 5
- Mold of the maxillary dental model for porcelain fused metal bridge in the anterior region: 5
- Mold of the opposing mandibular dental model: 5
- Mold of the maxillary dental model with complete dentition
- Mold of the dental model of the maxillary metal-base denture
- Mold of the dental model of the mandibular partial denture

c. Equipment and instruments necessary for the fabrication of crowns, bridges, and porcelain works
d. Models related to the practical training
e. Books including the textbooks of dental technology

[Contents of the laboratory work training]
a. The remaining training for the second session activities (the removable partial denture)
b. Fabrication of the porcelain fused to a metal crown (the maxillary first molar)
c. Fabrication of the porcelain fused to a metal crown (the anterior bridge)

<Outcomes>
a. The remaining training for the second session activity (removable partial dentures) was continued, and the procedures almost as far as the completion of the wax denture were finished.
b. The fabrication of the porcelain fused to a metal crown (the maxillary first molar) was completed as scheduled. This training with lectures provided students with an understanding of the characteristics of porcelain and the fabrication procedures for the porcelain fused to a metal crown.
c. The fabrication of the porcelain fused to a metal crown (the anterior bridge) was completed as scheduled. This training with lectures provided students with an understanding of the characteristics of porcelain and the fabrication procedures for the porcelain fused to a metal crown.
d. We discussed and confirmed occlusion theories and porcelain (focused on its scientific and technological characteristics) as the topics of the seminar.
e. The subjects (two topics) presented by Dr. Abe for the seminar were discussed and confirmed.

[Finished work; completed products 1]

[Finished work; completed products 2]

Issues: The fabrication of the removable partial denture progressed almost as far as the completion of the wax denture. Because of the use of gelatin as the impression material, the locations of reliefs and outlines were transferred more inaccurately, and the contours and precision of the metal base were more compromised compared with those with usual materials. The wax-up training was intensively conducted after taking multiple impressions, which led to the delay in the progress of the following porcelain training. The lack of sandblast equipment

caused delays in the progress of the training.
Comments: All training curriculums were completed by the end of June. We experienced more difficulties than expected due to limited inadequate equipment, materials, and university facilities. However, it was a great achievement for us to complete the scheduled curriculum.

[Fourth Phase]: Sunday, July 5, 2015 to Saturday, July 11, 2015
[Dispatch]: Total of three members <Proposing corporate>: Takeshi Uchida, Kensuke Shuto, <External personnel > Satoshi Abe (member of the Chiba City Assembly, Dentist)
[Place]: University of Dental Medicine, Yangon / School of Dental Technology
[Intended trainees]: Total of 200 including students and teachers from the Dental Technological School.
[Date of seminar]: Tuesday, July 7, 2015 13:00–15:00
Contents: Report of on-site activities, dental care in Japan and Myanmar

On Tuesday, July 7, 2015, the seminar was held at the University of Dental Medicine, Yangon, and attended by about 200 students and teachers.
The seminar included following three parts.

(i) Lecture focusing on the significance of the one stop service of dental, medical, and nursing cares, as well as the business engaged by Dental Support was given by Mr. Uchida, president of Dental Support Co., Ltd.
(ii) Activities of Dental Support within the JICA activity were presented and reported by Mr. Shuto, manager of the Laboratory Department, followed by a presentation of the cutting-edge dental treatments and technologies regarding the digitalization of dental treatments with using movies.
(iii) Presentations were made by students under the supervision of Dr. Abe.
A total of four students presented the knowledge and skills of dental technology learned through this project, the current situation of dental laboratories in Myanmar and the situation of oversea dental laboratories.

We successfully attracted people interested to total about 200 seminar participants, which was more than we initially expected. We interviewed Dr. Shwe Toe, president of the university and Dr. Shwe Hlaing, an assistant professor, about the seminar after the seminar. Both doctors said, “The seminar was very meaningful. The private project for technology promotion by JICA is now ended but we hope to keep amicable relations and welcome your future cooperation for the development of the university and Myanmar.”
Additionally, we asked students who made presentations to fill out questionnaires. According to the completed questionnaires, the most dominant answer to the question about the contents wanted to learn most was CAD/CAM and other responses included flexible dentures.

Photo: Seminar by Mr. Uchida (from Dental Support)

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Photo: Seminar participants (teachers and students)

Photo: Seminar by Mr. Syoto (from Dental support)

Photo: Photo with the President and students taken after seminar.

3-2 Activities of Acceptance in Japan

3-2-1 Summary of the activity

(1) Duration of the activity

Tuesday, April 14, 2015 to Friday, April 17, 2015 (4 days)

(2) Accepted trainee: Five participants

- Dr. Shwe Hlaing (Associate Professor, Department of Prosthodontics, University of Dental Medicine, Yangon)
- DT. Sein Win Htay (Dental Technician, Chief, Dental Technological School, University of Dental Medicine, Yangon)
- Hay Marn Chit Nu (Student, Dental Technological School, University of Dental Medicine, Yangon)
- Kyaw Thu Aung (Student, Dental Technological School, University of Dental Medicine, Yangon)
- Myat Thu Zar Win (Student, Dental Technological School, University of Dental Medicine, Yangon)

3-2-2 Contents of the activity

(1) Objectives

As a part of this project, dentists and dental technicians are accepted in Japan to actually experience dental treatments, as well as techniques and knowledge of dental technology in Japan.

(2) Schedule (implemented)

Refer to 1-3-2 “Activity Schedule of Acceptance in Japan”

(3) Major contents of training activities and comments

1) Tuesday, April 14

- Courtesy call on the mayor of Chiba

We made a courtesy call on the mayor of Chiba at the Chiba City Hall. Mayor Toshihito Kumagai encouraged the trainees. We discussed medical care in Japan and Myanmar with Mr. Miyamoto, chief of the International Exchange Department and Mr. Yamada, Manager of Office for Mayor

Photo: Courtesy call on Mr. Kumagai, Mayor of Chiba

- Laboratory Tour at Dental Studio (Dental laboratory)
Trainees observed the denture division of Dental Studio and the case of a metal-base denture.


Photo: Observing the denture division during the tour at Dental Studio

2) Wednesday, April 15
- Discussion at Dental Support Co., Ltd.
On-site activities were reported, and the difference in medical-related systems was discussed.


Photo: Discussion at Dental Support Co., Ltd.

- Tour of the Dental Studio and a partner dental clinic
Trainees visited the bridge division of the laboratory and the partner dental clinic, Kantake Dental Clinic.


Photo: Observation at the bridge division of the Dental Studio

3) Thursday, April 16

- Trainees visited Luz Omori Apl' Dental Clinic, a clinic with its own dental laboratory. They observed the implant placement surgery of six implants and GBR (guided bone regeneration) and then the clinical practices at the dental clinic. Both teachers and students were so eager to learn that they remain attentive and frequently asked questions.


Photo: Observation of the implant placement surgery at Luz Omori Apl' Dental Clinic

Contents: Facility tour
Live surgery of implant placement
Observation of dental treatments of patients with special needs
Discussion

[Facility tour]

The clinic, as one of the best in Tokyo, is designed as barrier-free and fully equipped for implant treatments (operating rooms with shadow-less light, post-surgery recovery units, a separator to obtain patient blood component for bone regeneration procedures etc.)

[Surgeries]

○ Implant placement surgery of six implants, GBR (Bone regeneration surgery)

Trainees from Myanmar put on surgical gowns and entered the operating room to observe the surgery with enhanced reality. The resident Myanmar dental staff at the clinic translated Japanese dental technical terms simultaneously, which helped increase the depth of understanding of trainees.

○ Observation of dental treatments for patients with special needs

They observed two patients: one patient with paralysis in the lower body and another patient with cerebral palsy. The patient with paralysis in the lower body had a barrier-free access to the dental examination room and moved to the dental unit with the help of attendants and dental staffs before receiving treatments. Subsequently, the usual dental treatments were provided. The patient with cerebral palsy underwent intravenous sedation before receiving the usual dental treatments.

[Level of understanding]

The presence of the resident Myanmar staff at the accepting clinic contributed to their increased levels of understanding. Implant treatment is still rare in Myanmar, and Dr. Shwe, Hlaing who visited Japan this time, had no experience in implant treatment.

- Tour of Dental Studio (a dental laboratory)

Trainees experienced CAD/CAM.

They observed the workflow from design to fabrication and gained hands-on experiences.


Photo: CAD/CAM experience at the Dental Studio

4) Friday, April 17 Departure for Myanmar

We sent trainees to the Narita Airport.

3-2-3 Outcomes of this project

Almost every goal of each classes was achieved. The limited equipment and inadequate facilities negatively influenced the execution of the work because the fabrication of the metal-base denture and the porcelain fused to a metal crown requires special instruments and materials. Trainee mostly could understand and acquire basic knowledge and skills for the fabrication of the removable partial denture, including surveying, designs, and procedures for retainer fabrication and artificial teeth arrangement. The crowns now can be restored anatomically based on the basic principles of occlusion. They also learned almost all of the complicated processes and procedures related to porcelain work. However, their levels of skills for such laboratory work still need to be substantially raised. The laboratory work skills of the students were often inadequate to achieve the required level of accuracy and quality. The enhancement of the course curriculum to include scientific knowledge, such as materials sciences and occlusion theories is expected. Improvements in educational programs and the environment seem to be urgently needed for the advancement of the education for dental technicians in Myanmar. Various advanced work was completed in such a short period of this program to produce satisfactory results, which must reflect the potential talent of the trainees.

Section 4 Directions of Business Expansion (Business model construction and business plans)

4-1 Business scheme based on outcomes of this project (short-/mid-term [1–3 years])

As described in previous sections, we have developed a strong relationship with the University of Dental Medicine, Yangon, through various activities of this project and obtained expertise regarding the construction of the educational system in less developed countries in dental medicine (* refer to the results of the questionnaire survey).

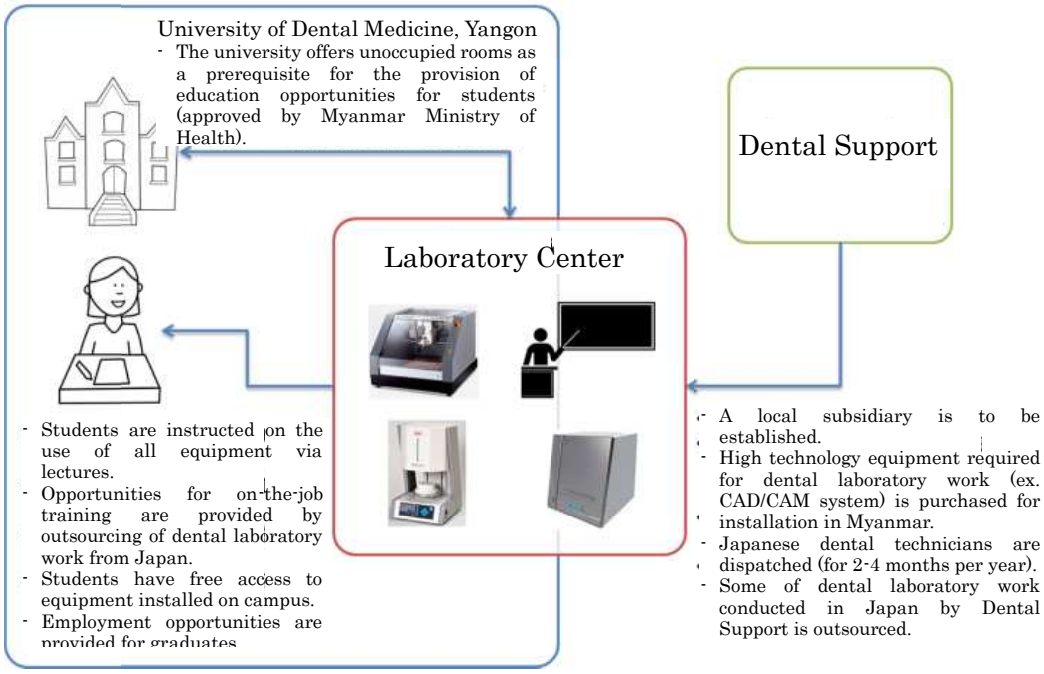
During this project, upon the request of President Shwe Toe of the University of Dental Medicine, Yangon, we discussed the establishment of a service base of dental laboratory work within the University of Dental Medicine, Yangon, and received permission from the Myanmar Ministry of Health to establish the laboratory center on the campus of the University of Dental Medicine, Yangon. Thus, we agreed to set up the laboratory center to carry out some fabrication process for dental laboratory work at the University of Dental Medicine, Yangon, outsourced from Japan.

As a result, Dental Support is going to outsource some fabrication processes for dental laboratory work now conducted in Japan to Myanmar to create new employment, continue to develop local human resources, and improve dental technology and laboratory techniques in Myanmar based on the relations of trust with the University of Dental Medicine, Yangon, as developed through this project.

Our marketing of dental laboratory work and the establishment of dental clinic to provide dental treatments at the same level as in Japan has been left to be discussed again in the future as uncertainty in the prospect of the growing needs for high-quality high-price dental treatments was found by the field survey and suggested by the interview with Mr. Shwe Denti, a business partner. (For more details, refer to 4-2 Marketing of Dental Laboratory Products and Dental Care Business in Myanmar)

4-1-1 Business Scheme for the next year based on the outcomes on this project

Relationship Diagram



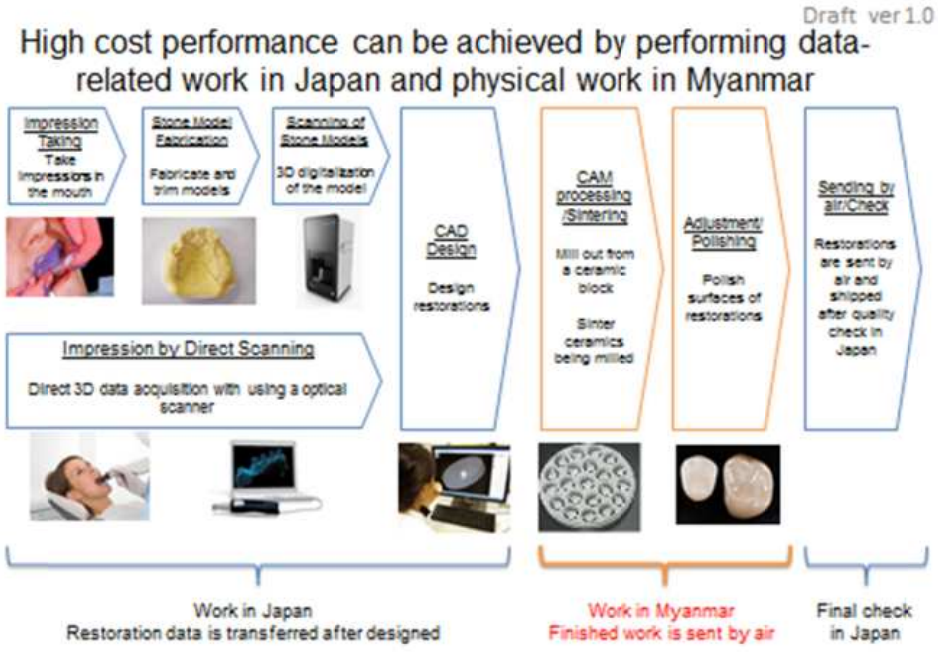
(i) Dental Support establishes a company (a laboratory center) offering dental laboratory services on the campus of the University of Dental Medicine, Yangon, to provide training of dental laboratory techniques to the local personnel and outsource some fabrication processes of dental laboratory work from Japan. We train the local dental technicians through on-the-job training as well as create new employment for local people. The high-quality laboratory work currently less demanded in Myanmar is to be marketed to customers of Dental Support in Japan and Dubai. We are planning to fabricate high-quality reasonably priced laboratory work to win the market share in neighbor ASEAN countries including Vietnam and Thai.

(ii) We continue cooperation with the University of Dental Medicine, Yangon, to offer training programs on regular basis. Specifically, we will dispatch Japanese dental technicians once in three months to administrate and instruct the works at the laboratory center and give special lessons sometime during the dispatched period to raise awareness of advanced Japanese dental technology through education. Staffs of the University of Dental Medicine, Yangon, listed below are committed to continuous cooperation with Dental Support.
(a) Dr. Shwe Toe (President, University of Dental Medicine, Yangon)
(b) Dr. Shwe Hlaing (Associate Professor, Department of Prosthodontics, University of Dental Medicine, Yangon)
(c) Dr. Myat Nyan (Department of Prosthodontics, University of Dental Medicine, Yangon)
(d) Dr. Thein Kyu (Former President, University of Dental Medicine, Yangon)

(iii) In the future, the laboratory center attached to University of Dental Medicine, Yangon, will be expanded to establish a school of dental technology with a dental laboratory where graduates of University of Dental Medicine, Yangon, can further deepen their knowledge and learn techniques. In parallel with it, we will continue activities to raise awareness of Myanmar for the construction of a national qualification system for dental technicians.

4-1-2 Laboratory work to be outsourced to Myanmar and the reasons

(i) Some fabrication processes for the dental ceramic restoration called full zirconia will be outsourced to the dental laboratory center established by Dental Support on the campus of the University of Dental Medicine, Yangon, from Japan. In the first year of the laboratory center, the feasible processes of milling, sintering, and polishing with the current level of skills of local personnel will be outsourced. The processes of fabrication of model from impression and model scanning need to be performed in Japan due to the physical limitations. In addition, the design process for CAD data and the final validation require a high level of expertise and will be performed by Dental Studio, a dental laboratory of Dental Support in Japan. From next year, more processes are planned to be outsourced according to the improved skills of local personnel.



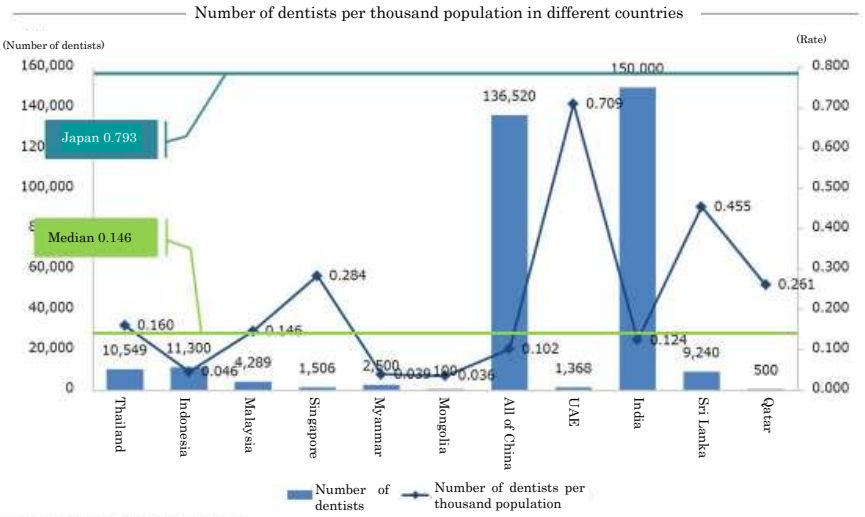
(ii) We investigated the supply price of dental lab equipment and materials to find that the lab equipment can be purchased at almost the same price as in Japan whereas the materials were about 30% less compared with those in Japan. We also investigated the effect of the accidental occurrence of a power outage on the delicate equipment and found that problem-free operation can be secured by installation of an uninterruptible power supply system. Based on the quotation of lab equipment we obtained in Myanmar, the initial investment is estimated at 12.443 million yen when the laboratory center is established on the campus of the University of Dental Medicine, Yangon. Its location within the university campus will suppress the construction costs. The low costs of materials and labor contribute to reduce the manufacturing costs of the intended products by about 40% compared to Japan.

Amount of Initial Investment in the Myanmar Laboratory Center

Equipment	8,740,000	CAD/CAM, zirconia sintering furnace, porcelain furnace
Uninterruptible power supply system	460,000	1 unit
Remodeling cost	575,000	
Rent fee	360,000	For one year (annual payment) Estimated 30,000 yen per month
Cost of incorporation	400,000	
Personnel cost (in Myanmar)	408,000	For 3 months (1 manager and 1 staff)
Traveling cost of Japanese stuffs	1,500,000	Personnel cost, transportation cost etc.
Total investment	12,443,000	

4-2 Marketing of Dental Laboratory Work and Dental Care Business in Myanmar

Currently, the number of dentists in Myanmar is 3,219, which is very small as the ratio of 0.039 dentists per thousand population. (Source: Health in Myanmar 2014)



Source: Internal material based on data from Ministries of foreign affairs and WHO

We discussed and investigated the marketing of dental laboratory products and the possible dental care business in Myanmar and reached a conclusion. We put off the commercialization and investigations prior to commercialization in 2016 for the following reasons:

A) Because of the minimal urgency for dental treatment, Myanmar's most affluent often travel to neighboring medically advanced countries, including Thailand, to receive high-quality dental treatments (based on the hearing survey at the University of Dental Medicine, Yangon)

B) Given the opportunity for Japanese dentists to examine Japanese patients in Myanmar, they possibly perform only emergency procedures, including administration of analgesics and tooth extraction, because Japanese patients commonly return to Japan to receive major dental treatments. Thus, there are few opportunities to offer high value-added treatments. (Based on the hearing survey of Shwe Denti, Shwe Denti recruits Japanese dentists to offer treatments to Japanese.)

C) Dental laboratory work created with advanced technology is available in Myanmar but can only sell as many as 100 units in a month. Laboratory equipment operates at low capacity. (Based on the hearing survey to Shwe Denti, Shwe Denti fabricates such restorations as those regarded state-of-the-art including zirconia laboratory work.)

D) Leading Myanmar dentists have strong inclinations to move overseas and actually work overseas due to higher salaries (based on the hearing survey at the University of Dental Medicine, Yangon).

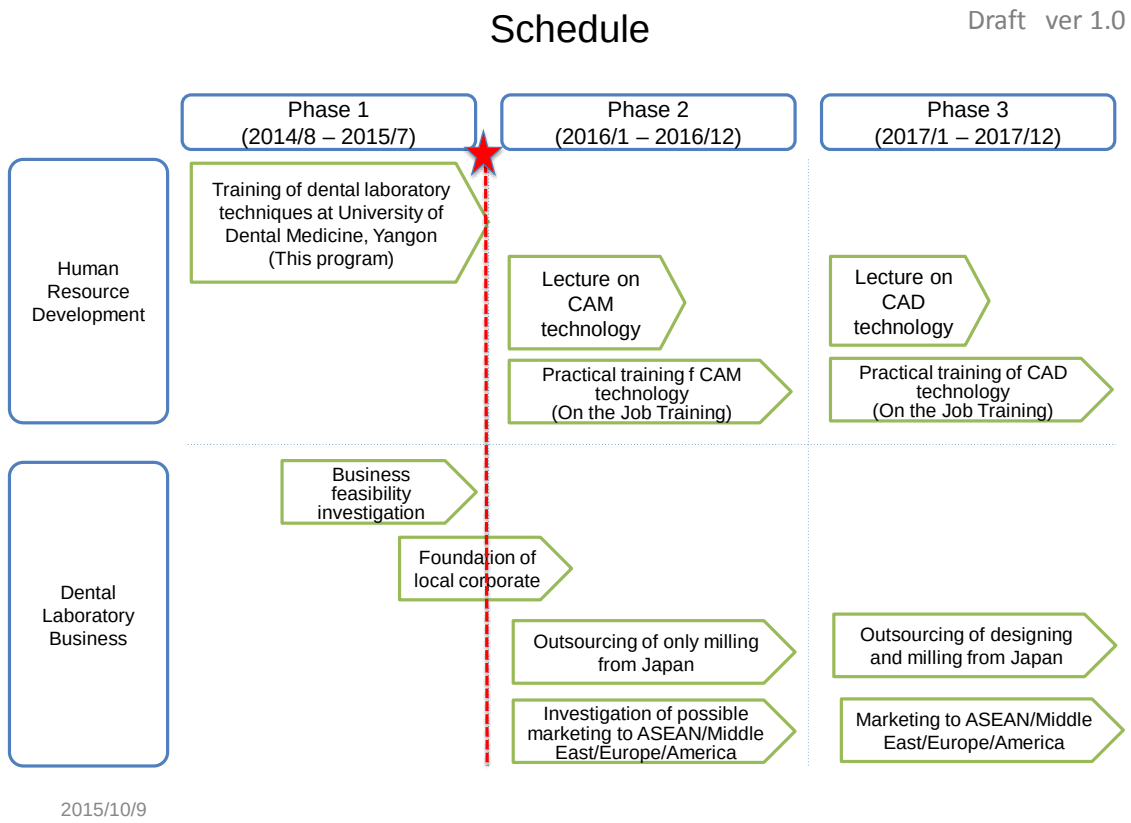
E) High value-added dental treatments require both excellent dentists and high-quality dental laboratory work to be performed. Therefore, the lack of a certain number of excellent dentists in Myanmar means no market for high-quality dental laboratory work.

F) Our businesses market dental laboratory work and deliver dental care in competition with local businesses, which could impede the acquisition of marketing approval and business licenses from the Myanmar government

4-3 Schedule of business expansion

Based on information obtained through on-site activities, the schedule of business development is planned as follows:

September 2015	Submit application documents for approval of establishment of our local subsidiary
January 2016	Open the local subsidiary (the establishment of the laboratory center)
February 2016	Start marketing dental laboratory work to Japan
	Provide lectures on CAM application and practical training at the University of Dental Medicine, Yangon
	Conduct business feasibility investigation on marketing business of dental laboratory work to ASEAN, Middle East, and Western countries
2017	Expand the local subsidiary (laboratory center)
	Provide lectures on CAD application and practical training at the University of Dental Medicine, Yangon
	Start marketing of dental laboratory work to ASEAN, Middle East and Western countries



Section 7 Possible collaboration with ODA projects

In this project, we investigated the possible collaboration with ODA projects for “the establishment of a national qualification program and a dental technician school (or the creation of a new educational program)”. The results of the investigation provided us with suggestions to proceed to further investigations following the plans described below.

- We will continue activities to raise awareness for the construction of a national qualification system for dental technicians. Myanmar currently has only 40 graduate dental technicians who received professional education as dental technicians at the national university in Myanmar. Therefore, most dental laboratory work demanded in Myanmar is performed by unqualified technicians who have had no special training. In 1995, Japan introduced the national qualification system of dental technicians and simultaneously offered preferential treatment to transfer unqualified technicians to qualified ones. During the interview with Mr. Than Zaw Myint, the Director General of the Ministry of Health, he said that they actually have only one dental technology school attached to the University of Dental Medicine, Yangon, in Myanmar. Therefore, the construction of a national qualification system for dental technicians is difficult unless the number of such schools increases nationwide, which requires time.

- The establishment of a dental technician school continues to be an issue for the future. At present, dental technicians are rated relatively low in Myanmar. (The average monthly salary is about 15,000 yen, which is comparable to those of manufacturing jobs.) The expected introductory date of the national qualification program of dental technicians has not been determined. Therefore, the dental technician school, even if it is established, cannot probably gather sufficient numbers of students. In the meantime, we are going to continue the investigation of the feasibility of its establishment while we provide programs at the University of Dental Medicine, Yangon.

- We are offering new educational programs at the University of Dental Medicine, Yangon, from next year. Initially, educational program including training of application of CAM technology and porcelain build-up techniques is being planned. For the time being, programs are going to be provided by Dental Support on a voluntary basis instead of as an ODA project. University of Dental Medicine, Yangon, has also requested training regarding niche technologies including maxillofacial prosthesis (epithesis). We continue to discuss the provision of educational programs based on local needs understood through interviews

Dental Support will continue to work actively to improve and establish the techniques of dentists and dental technicians, as well as to distribute high-quality dental laboratory work, develop and produce human resources, and improve dental care in Myanmar.

As described in the previous sections, in cooperation with University of Dental Medicine, Yangon, we start to establish a milling center and provide educational support with our own funds and try to form and implement education plans for dental technician training to contribute to medical development in Myanmar.

Appendix

1. On-site activity　　Media report (*Nihon Keizai Shimbun*)
2. On-site activity　　Media report (*Nihon Shika Shimbun, Japan Dental News*)
3. On-site activity　　Media report (*Dental Economy*)
4. Activities of acceptance in Japan　Media report (*Nihon Shika Shimbun, Japan Dental News*)
5. Seminar materials (i)　Fourth Session On-site Activities
6. Seminar materials (ii)　Fourth Session On-site Activities

Media report (*Nihon Keizai Shimbun*) February 4, 2015

デンタルサポート

ミャンマーで義歯加工指導

生産拠点に育成

地域とアジア

2. On-site activity　Media report (*Nihon Shika Shimbun, Japan Dental News*) February 10, 2015

日本歯科新聞

日本の歯科技工をミャンマーで伝授

JICAの民間技術普及事業で

品質の水準を高める

アンダルスタジオ所長
首藤 謙介氏

デンタルサポート

JICAが歯科医療サービス普及促進事業等を採択

デンタルサポート株式会社は、同社が提案したミャンマーにおける「歯科技工／歯科医療サービス普及促進事業」が国際協力機構（JICA）の募集していた「開発途上国の社会・経済開発のための民間技術普及促進事業」に採択されたことを発表した。

デンタルサポート社の事業はミャンマーが対象国で、①現地歯科大学における日本の歯科技工教育・育成プログラムの定着、②各種セミナーによる予防歯科の啓発活動、③日本の技術とノウハウを取り入れた歯科技工物の流通、などを実施するとしている。

「開発途上国の社会・経済開発のための民間技術普及促進事業」は、開発途上国を対象に日本や現地で研修・セミナー等を実施し、日本企業の製品・技術・システム等への理解を促しつつ、途上国開発への活用可能性を検討することを目的とする。今回が第1回目の公募で、71件の応募があり14件が採択された

4. Activities of acceptance in Japan

Media report (*Nihon Shika Shimbun, Japan Dental News*) April 28, 2015

JICA事業で訪日

ミャンマー・ヤンゴン歯科大の技工部学生たち

日本の医院や器材に興奮

ミャンマーのヤンゴン歯科大学の歯科補綴学助教授や歯科技工部の学生らが来日し、千葉市長を表敬訪問するとともに、千葉市内の歯科医院等を見学した。

一行は、デンタルサポート（本社・千葉市、内田武社長）の提案がJICA（独立行政法人国際協力機構）の「開発途上国の社会・経済発展のための民間技術普及促進事業」に採択され、昨年8月～今年8月までの1年間にわたり、実施されているプロジェクト「歯科技工／歯科医療サービス普及促進事業」の一環として来日したもの。

14日に成田に到着した助教授や同大歯科技工部主任歯科技工士と歯科技工部の学生3人は、午後3時の千葉市長表敬訪問後、5時からデンタルサポートの技工部門であるデンタルスタジオに隣接する寒竹歯科医院を見学した。

翌日は、デンタルサポートを訪問、さらにデンタルスタジオを見学し、細かく分業された技工所内の全ての製作工程や、見慣れない多くの器材に驚嘆していた。また、CAD／CAM体験では、実際に義歯のモデリングに挑戦したが、初めて触れるCAD／CAMの操作や性能の高さに興奮していた。

一方、DCヘルスケアグループ代表の寒竹郁夫氏や内田社長らとの訪問後の意見交換では、ミャンマーの歯科医療の現状について、都心部から離れた村などでは歯ブラシを用いた歯磨きの習慣が浸透していない現状や、歯科大学が国内に2校あり、歯科医師が年間300人、歯科技工士のコースがあるのはヤンゴン大学だけで2年間に20人しか新たな歯科技工士が輩出されないなどの歯科事情が説明された。

㊤技工の製作現場を熱心に見学する学生ら
㊦CAD/CAM操作の前に説明を受けた

Seminar materials (i)

DS Healthcare Group

JICA project

Collaboration between University of Dental Medicine, Yangon and Dental Support Co. Ltd, Japan

July 7, 2015

Agenda

DS Healthcare Group

■ **Introduction of Dental support Co,.Ltd**

Prof. Takeshi Uchida, R.Ph., Ph.D.
President, Dental Support Co., Ltd.

■ **JICA activities in Myanmar and CAD/CAM technology**

Kensuke Shuto DT
GM, Dental Technic Dept. Dental support Co., Ltd.

■ **Presentations by students of Department of Dental Technic and discussion regarding dental care of Myanmar and Japan**

Modulator: Satoshi Abe,D.D.S.,Ph.D.
Member of Chiba City Assembly

Speaker

DS Healthcare Group

■**Part One Prof. Takeshi Uchida, R.Ph., Ph.D.**
President of Dental Support Co., Ltd.

Contents; Introduction of Dental support Co,.Ltd

■**Part Two Kensuke Shuto DT**
General Manager of the Dental Technic Department
of Dental support Co., Ltd.

Contents; JICA activities in Myanmar and CAD/CAM technology

■**Part Three Satoshi Abe,D.D.S.,Ph.,D**
Member of Chiba City Assembly

Contents; The presentations by students of Department of Dental Technic and the discussion about the dental care of Myanmar and Japan

DS Healthcare Group

■Part One

Contents; Introduction of Dental support Co,.Ltd

Speaker ; Prof. Takeshi Uchida, R.Ph., Ph.D.
President of Dental Support Co., Ltd.

DS Healthcare Group

DS Healthcare Group (DSHG) Profile

DSHG consists of Dental Support Co.,Ltd. and 13 Medical-corporations.
Establishment: May 1989

Number of Employees : 678 (Dental Support Co., Ltd.) 733 (Medical-corporations)
In Japan : 41 Dental Clinics
6 Medical Clinics
38 Business Offices
166 The special vehicles for Home Dental-Medical Care
21 Total Rehabilitation Centers
8 Nursing Stations
2 Nursing-Homes
1 Dental Laboratory
1 Healthcare Research Institute
Overseas : 1 Medical-Dental Clinic (Dubai in UAE)

DS Healthcare Group

DS Healthcare Group (DSHG)

DSHG: Founder, Chairman, CEO
Ikuo Kantake, DDS, Ph.D.

Dental Support Co. Ltd.
President
Prof. Takeshi Uchida, R.Ph., Ph.D.

Main Strategy # 1.

6

Main service lines # 1. Dental

★ Dental clinics

★ Home Dental Care

★ Visit to patient's home / Hospital

7

Main service lines # 2. Nursing for elderly

Nursing-home

Nursing service by Helper

Oral care service by Hygienist

Rehabilitation by Physical-Therapist

8

TRC Improvement of oral function ⟺ Recovery of whole body

Oral care × Rehab.

Dentistry

Care giving

Total Rehabilitation Center

DSHG currently operates 21 TRCs in Japan

9

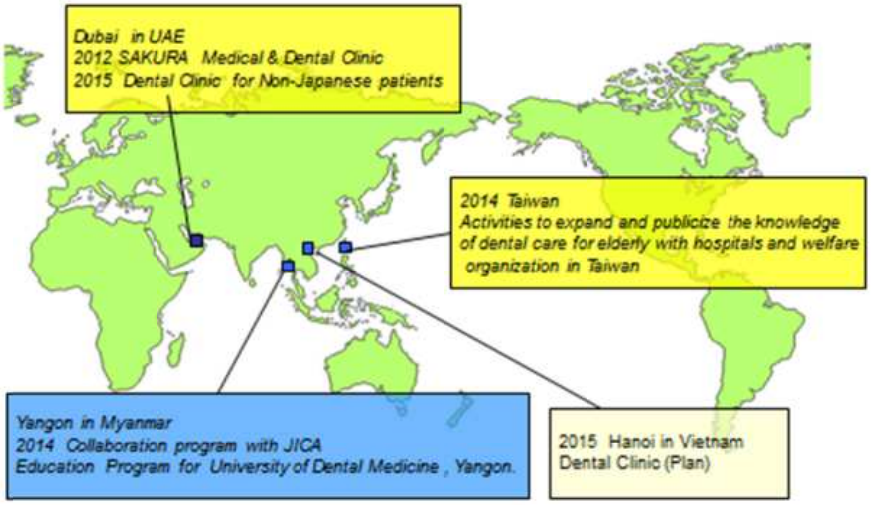
Main service lines # 3. Dental Laboratory

Full service dental lab, over 80 are working at our lab,
All of each technicians has a qualified license
as a dental technology approved by the Japan Government.

DENTAL STUDIO

10

Main Strategy # 2.



Overseas operation

11

A Dental Clinic in JAPAN

13

DS Healthcare Group

■Part Two

Contents; JICA activities in Myanmar
and
CAD/CAM technology

Speaker; Kensuke Shuto DT
General Manager of the Dental Technic
Department of Dentalsupport Co., Ltd.

JICA Project

Collaboration Program with the Private Sector for Disseminating Japanese Technology for Dental Technique and Dental Care service.

21

Activities in Myanmar

AUGUST, 2014 TO JULY, 2015

22


Ju Ju

Outline of the Study Tour in Japan

April 14, 2015 to April 17, 2015

32

33

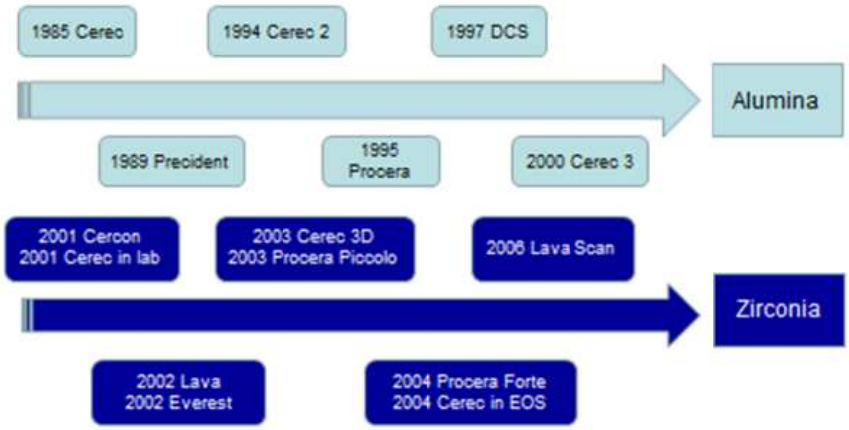
DS Healthcare Group

CAD/CAM Technology

History of CAD / CAM System

DS Healthcare Group

The following is a locus of development in recent years of the CAD / CAM system. 1985 German Siemens (now Sirona) was released System "CEREC" that can be processed by the chair sides Mormann developed (the alumina-based). Later intermittently it means that the new system is developed, the zirconia-based systems have been released almost every year to the 21st century.



DS Healthcare Group

■Part Three

Contents; The presentations by students of Department of Dental Technic and the discussion about the dental care of Myanmar and Japan.

Speaker;Satoshi Abe,D.D.S.,Ph.,D
Member of Chiba City Assembly

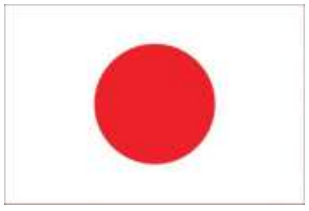
Handout of Advanced Practice

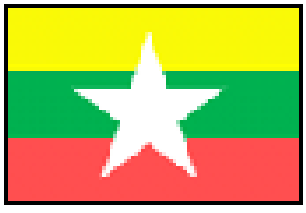
PBL (Problem Based Learning) toward to education for dental technician

Satoshi Abe, D.D.S., Ph.,D.
(Member of Chiba City Assembly)

1st – 7th , July, 2015

Department of Dental Technic,
University of Dental Medicine, Yangon,
Republic of Union of Myanmar





[Students]

A group		B group	
1	Htoo Yadanar Linn	11	Ngu War War Har
2	Hay Marn Chit Nu	12	Nay Yee Tun
3	Ju Ju Naing	13	Pyae Phyoe Hein
4	Aung Myat Mon	14	Hnin Thazin Nwe
5	May Naw Myo	15	May Thu Naing
6	**Aung Nyi Nyi Min**	16	Htun Min Kyaw
7	Phyu Ei Kyaw	17	Hnin Watyi Soe
8	Shwe Yee Win Kyaw	18	**Kyaw Thu Aung**
9	May Zin Phyo	19	Ei Ei Tun
10	Myat Thu Zar Win	20	Nyein Nyein Soe

[Lecture]

Name: Hiroo Machida

: Lecture, Dental Technician School, Kanagawa Dental College

: Multiple experiences on dental lab instuction in Japan and abroad

Name: Satoshi Abe

: D.D.S., Ph.D.

: Member of Chiba City Assembly

Education:

Tokyo Dental College (1994 -2000)

Graduate School, Tokyo Medical and Dental University (2000 – 2004)

Professional Summary:

Clinical Staff, Dental Hospital,

Tokyo Medical and Dental University (2004 – 2005)

Assistant Professor, Kanagawa Dental College (2005 – 2012)

Lecture, Shona Dental Hygienist School (2007 -)

Lecture, Preschool of National Board for Dentist (2009 -)

Assistant Professor, Medical School, Teikyo University (2012 – 2013)

Visiting Lecture, Medical School, Teikyo University (2013-)

Visiting Lecture, School of Pharmacy, Chiba University (2015-)

Additional Official Work:

National Research on making policies dealing with dental appliances

Ministry of Health, Labour and Welfare, Japan (2007 – 2014)

[Summary]
This lecture is divided into two Lessons.

Lesson 1 aims to help students understand and master knowledge more deeply by summarizing, reviewing and teaching instead of traditional knowledge integrated learning.

Lesson 2 aims to learn how to apply the knowledge in the previous course by evaluating knowledge, attitude and skill using the PBL (Problem Based Learning) method which is popular in medical education worldwide nowadays.

[Goals]
GIO (General Instruction Objective)
To learn how to make an objective judgement by comparing the dental lab situation in Myanmar and other foreign countries, as well as how to deal with the world trend on the changing dental lab situation considered by themselves, based on the knowledge and technique on dental lab learned in this course.

SBOs (Specific Behavioral Objectives)

1. Knowledge
   To describe knowledge on dental lab learned in this course.
   To describe domestic human resource in health science in Myanmar
   To describe domestic situation of dental lab in Myanmar
   To describe domestic dental lab market in Myanmar
   To describe situation of dental lab in foreign countries.

2. Attitude
   Group work
   Presentation
   Discussion

3. Skill
   To show interest about dental lab in Myanmar
   To collect materials on the subject given
   To connect people related and collect information

[Timetable]

No.	Date	Lessons	Contents
1		Lessons 1, 2 Task presentation Class assignment	Students are pre-assigned to two groups. Each group receives classwork assignment to be self-learned
2	7/1	Lessons 1, 2 Orientation	Objectives and learning methods of each lesson are explained. PBL, the learning method applied in Lesson 2 is instructed.
		Lesson 1 Prepare presentation	Review what was learned through the group discussion
		Lesson 2 Standards The Scenario	White Goals and Objectives. White a Problem.
3-6	7/2-5	Lesson 1 Prepare presentation	Prepare presentation materials including slides and notes in groups
		Lesson 2 Collect Resources Solving the Problem	Collect materials needed for presentation
7	7/6	Lesson 2 Assessment Formative Summative	Formative Assessment is to assess student learning during on-going programs Summative Assessment is to evaluate student learning and

			comprehensively assess achievement
8	7/7	Lessons 1, 2 Presentation	Students give presentations with prepared slides within the specified time period
		Lessons 1, 2 Debrief Feedback Reflection	Each student receives individual feedbacks.
9		Follow-up	Feedback reports (for Lesson1 and 2) are filled where appropriate

[Key Words]
Dental technician, health professional resource, dental laboratory, health policy, offshore dental lab work, outsourcing

[Textbook]
Handouts will be provided when necessary.
Web resources and e Book available on the Internet.

[Evaluation]
Evaluation is based on the attendance (50%) , attitude (20%) , and presentation (30%) .
Attendance rate more than 67% is necessary for each student.

[Additional Requirements]
Students are recommended to learn by themselves the distributed materials to improve their understanding.

[Remarks]
Maximum number of capacity of this lecture is under 12 students for each group. Before starting this lecture, students are assigned to two groups to receive assignments.

[Lesson 1]

<Periods>

1st -7th, July, 2015

<Lecture>

Hiroo Machida,
Satoshi Abe, D.D.S., Ph.D.

<Topic>

A group: Theory of Occlusion
(About occlusion theories)
B group: Dental ceramic
(About porcelain in dental technology (focused on its scientific and technological characteristics))

<LS: Learning Strategy>

Roles: Student Leader, Presenter, Prepare presentation slides, Preparer of handout (summary document)
Learning Materials: Note, and memo of lecture, textbook
Group Discussion:

<Presentation>

Presentation Time	10-15 min
Presentation Material (Handout)	5 pages or less
PPT	20 slides or less

<Submission>

Group: Paper and Digital data
Presentation Material (Handout)
PPT
Each Student:
Feedback of Lesson 1 within 1 page

[Lesson 2]

<Periods>

1st -7th, July, 2015

<Lecture>

Hiroo Machida,
Satoshi Abe, D.D.S., Ph.D.

<Topic>

A group: Necessary policies dealing with domestic dental appliances

(Discuss policies to cope with the domestic demands for dental laboratory work)

B group: Strategy for abroad outsourcing of dental appliances

(Discuss measures to win oversea orders of dental laboratory work)

<LS: Learning Strategy>

Roles: Student Leader, Presenter, Prepare presentation slides, Preparer of handout (summary documents)

Learning Materials: Note, and memo of lecture, textbook

Group Discussion:

<Presentation >

Presentation Time	10-15 min
Presentation Material (Handout)	within 5 pages
PPT	within 20 slides

< Submission>

Group: Paper and Digital data

Presentation Material (Handout)

PPT

Each Student:

Feedback of Lesson 2	within 1 page

[Reference]

PBL (Problem-Based Learning)

Project Based Learning is a teaching method in which students gains knowledge and skills by working for an extended period of time to investigate and respond to a complex question, problem, or challenge. In Gold Standard PBL, Essential Project Design Elements include:

Key Knowledge, Understanding, and Success Skills - The project is focused on student learning goals, including standards-based content and skills such as critical thinking/problem solving, collaboration, and self-management.

Challenging Problem or Question - The project is framed by a meaningful problem to solve or a question to answer, at the appropriate level of challenge.

Sustained Inquiry - Students engage in a rigorous, extended process of asking questions, finding resources, and applying information.

Authenticity - The project features real-world context, tasks and tools, quality standards, or impact – or speaks to students' personal concerns, interests, and issues in their lives.

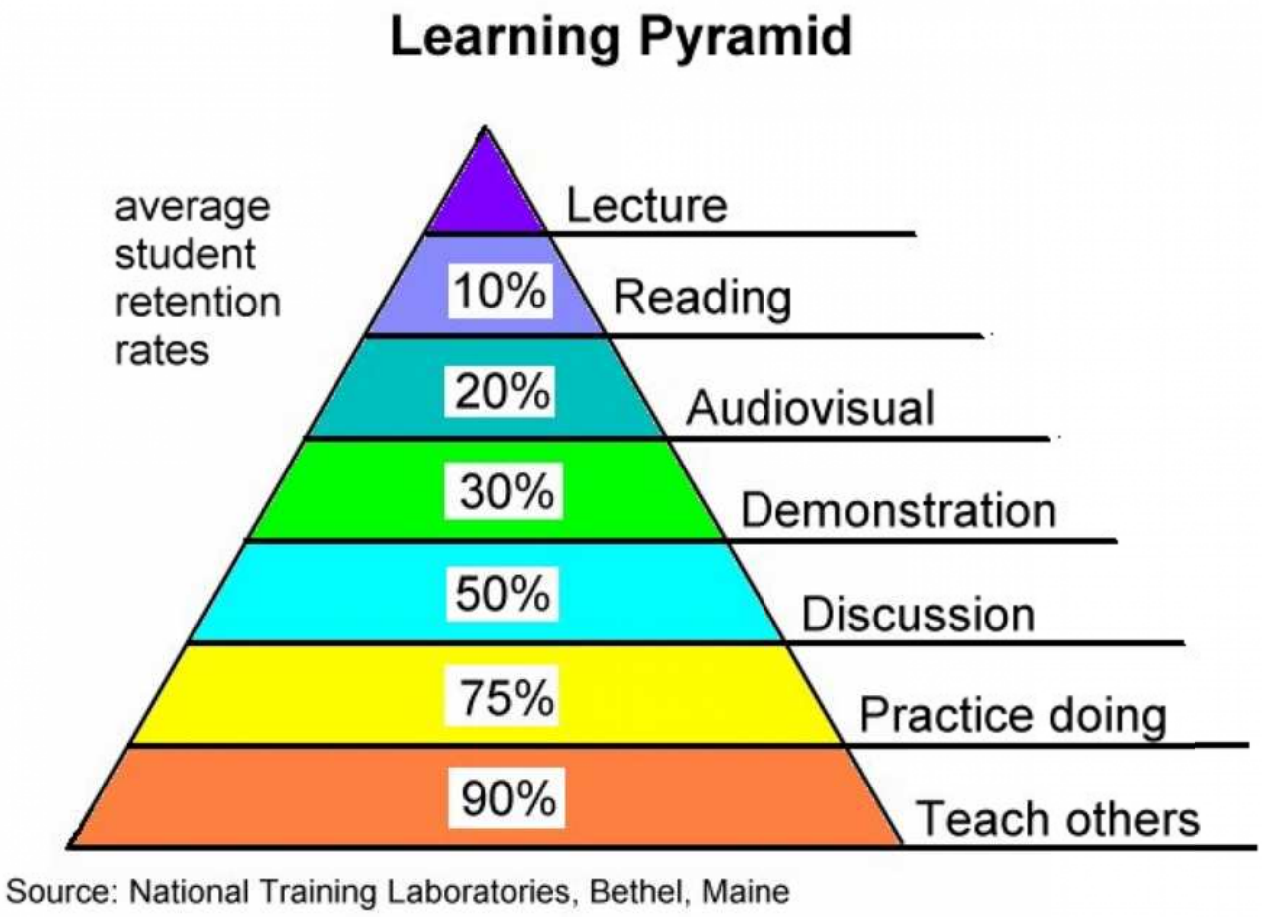
Student Voice & Choice - Students make some decisions about the project, including how they work and what they create.

Reflection - Students and teachers reflect on learning, the effectiveness of their inquiry and project activities, the quality of student work, obstacles and how to overcome them.

Critique & Revision - Students give, receive, and use feedback to improve their process and products.

Public Product - Students make their project work public by explaining, displaying and/or presenting it to people beyond the classroom.

Learning Pyramid



[Memo]

Lesson1

Feedback of Lesson 1

Class	A / B	Name			
Topic				Role	
<Topic > What you are interested in What you found difficult					

< Lesson >

Your role in the group

Comments about the lesson

Deadline: 8th July 2015

Lesson2

Feedback of Lesson 2

Class	A / B	Name			
Topic				Role	
<Topic > What you are interested in What you found difficult					

< Lesson >

Your role in the group

Comments about the lesson

Deadline: 8th July 2015